

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

ILLUMINA, INC.,)	Case No. 4:21-cv-2611
)	
Plaintiff,)	
)	
v.)	JURY TRIAL DEMANDED
)	
APEXBIO TECHNOLOGY LLC,)	
)	
Defendant.)	
_____)	

COMPLAINT

Plaintiff, Illumina, Inc. (“Illumina”), for its Complaint for patent infringement against Defendant, APEXBIO Technology LLC (“APEXBIO”), alleges as follows:

THE PARTIES

1. Illumina is a company organized and existing under the laws of the State of Delaware with a principal place of business at 5200 Illumina Way, San Diego, CA 92122.
2. Illumina is a global leader in developing and manufacturing life science tools and systems for analyzing the building blocks of life: DNA that makes up the human genome. DNA is made up of a series of nucleic acids, the exact sequence of which determines the identity of each piece of DNA. Illumina’s portfolio of DNA sequencing and analysis tools is designed to accelerate and simplify genetic DNA analysis, and has enabled studies that were not even imaginable just a few years ago. To that end, Illumina is credited with achieving a significant milestone in medical progress through the launch of sequencing technology capable of pushing the cost of sequencing the human genome from what was as high as six to seven figures down to just \$600. *See, e.g.*, <https://www.nature.com/articles/d42473-021-00030-9>. Illumina’s innovation has contributed

substantially to advancing research of diseases and drug development and is moving the industry closer to realizing personalized medicine.

3. Illumina makes and sells library preparation products for “next-generation sequencing” of the human genome. These library preparation products allow the user to take a very small quantity of genetic material, such as DNA, and easily amplify it and transform it into a form that is compatible with Illumina’s next-generation sequencing systems. The next-generation sequencing systems, which offer high throughput sequencing, process a given sample in a massively parallel fashion and quickly determine its genetic sequence, *i.e.*, the exact order of the nucleic acids that make up the genetic material of interest. Researchers then can analyze the sequence to investigate and understand complex scientific challenges surrounding health and disease. Illumina’s customers include leading genomic research centers, academic institutions, government laboratories, and hospitals, as well as pharmaceutical, biotechnology, commercial molecular diagnostic laboratories, and consumer genomics companies.

4. APExBIO is a company organized and existing under the laws of the State of Texas with a principal place of business at 7505 Fannin Street, Suite 410, Houston, TX 77054. According to its website, APExBIO sells Small Molecule Inhibitors/Activators, Compound Libraries, Peptides, Assay Kits, Fluorescent Labels, Enzymes, Modified Nucleotides, mRNA synthesis and various tools for Molecular Biology.

JURISDICTION AND VENUE

5. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1 et seq. This Court has subject matter jurisdiction over this action pursuant to at least 28 U.S.C. §§ 1331 and 1338(a).

6. This Court has personal jurisdiction over APExBIO because, inter alia, APExBIO is purposefully and intentionally availing itself of the privileges of doing business in the State of Texas, including in this District, at least because APExBIO is incorporated in this State with a registered office in this District, is headquartered and has a regular and established place of business in this District, and because APExBIO has committed acts of patent infringement in the State of Texas, including in this District. APExBIO transacts business and makes, uses, sells, and/or offers for sale products that infringe the asserted patent in the State of Texas and in this District.

7. Venue is proper in this District pursuant to at least 28 U.S.C. § 1400(b) at least because APExBIO is incorporated in this State, has a regular and established place of business in this District, and has committed acts of patent infringement in this District.

Illumina's Asserted Patent

8. U.S. Patent No. 10,184,122 (“the ’122 Patent”), titled “Transposon End Compositions and Methods for Modifying Nucleic Acids,” was duly and lawfully issued by the United States Patent and Trademark Office on January 22, 2019.

9. Illumina is the owner by assignment of all right, title, and interest in and to the ’122 Patent, now and for the entire period of and relevant to the infringement, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it, including the right to sue for and collect past damages. A copy of the ’122 Patent is attached hereto as Exhibit 1.

10. The ’122 Patent is directed to methods of preparing a library of nucleic acids using transposomes. Representative claim 1 of the ’122 Patent recites:

1. A method for preparing a library of nucleic acid fragments representative of a target nucleic acid comprising:

(a) contacting a target nucleic acid with a plurality of transposomes, wherein the target nucleic acid is double-stranded DNA, and the transposomes comprise a transposase and a pair of transposon end polynucleotides;

(b) incubating the target nucleic acid and transposomes under conditions whereby the target nucleic acid is fragmented into a plurality of nucleic acid fragments comprising one of the transposon end polynucleotides attached to an end of the nucleic acid fragments; and

(c) non-selectively amplifying the nucleic acid fragments, thereby obtaining a library of nucleic acid fragments that is representative of the target nucleic acid from which the fragments were generated.

11. As explained in the Abstract of the '122 Patent, the claimed method is useful for generating a DNA library for use in a variety of applications, such as analysis and sequencing of DNA, including massively parallel DNA sequencing (so-called "next generation sequencing").

12. Illumina sells library preparation kits for preparing samples for next-generation sequencing. Certain of Illumina's DNA library preparation kits are branded as "Nextera" DNA prep kits. Illumina sells these kits to its customers, who use the kits to practice the invention claimed in at least representative claim 1 of the '122 Patent.

13. The packaging for Illumina's "Nextera" DNA prep kits refers purchasers to Illumina's patent marking website at "www.Illumina.com/patents." That website states that it provides patent marking notice under 35 U.S.C. § 287(a) and identifies the '122 Patent with respect to Illumina's "Nextera" kits.

APExBIO's Ongoing Willful Infringement of the '122 Patent

14. On or around January 31, 2019, nine days after the '122 Patent issued, APExBIO placed an order for two products from Illumina. APExBIO ordered the Nextera DNA Flex Library Prep Kit (24 samples) (now called the Illumina DNA Prep Kit) for library preparation, which contains the necessary reagents to prepare 24 libraries for next-generation DNA sequencing.

APExBIO also ordered the Nextera DNA CD Index (24 samples), which includes the Illumina i5 and i7 index adapters.

15. On information and belief, after purchasing and examining Illumina’s DNA library preparation products, APExBIO began making its own product called “Tn5 DNA Library Prep Kit for Illumina” in three forms corresponding to various quantities of DNA and offering them for sale to customers in the United States under catalog numbers K1055, K1056, and K1057 without authorization from Illumina. As the product name indicates, APExBIO sold this test kit for use with Illumina’s DNA sequencers. On information and belief, APExBIO has been offering its “Tn5 DNA Library Prep Kit for Illumina” for sale on its website since at least December 2020.

16. On January 12, 2021, Illumina sent APExBIO a notice of infringement of the ’122 Patent. The notice letter was sent to APExBIO by e-mail and Federal Express. The Federal Express package was signed for and accepted at APExBIO’s front desk on January 13, 2021.

17. The notice letter dated January 12, 2021 enclosed the ’122 Patent as well as a claim chart comparing representative claim 1 of the ’122 Patent with APExBIO’s product literature for the “Tn5 DNA Library Prep Kit for Illumina” for the 50 ng DNA kit (Catalog No. K1057). The letter demanded that APExBIO respond within two weeks confirming that APExBIO and all of its affiliates have ceased all infringement. A copy of Illumina’s January 12, 2021 notice letter and claim chart is attached hereto as Exhibit 2 and is incorporated by reference herein.

18. Despite APExBIO’s receipt of the serious and detailed allegations set forth in Illumina’s first notice letter on January 12, 2021, APExBIO did not respond to the letter or cease its actions directed to infringement of Illumina’s patent rights.

19. Instead, APExBIO attempted to conceal its infringing activities. On information and belief, after receiving Illumina’s January 12, 2021 letter, APExBIO renamed its “Tn5 DNA

Library Prep Kit for Illumina” identified in that letter to the “GenuinePrep DNA Library Prep Kit for Illumina,” but continued to sell it under the same catalog numbers with the same product literature on APExBIO’s website.

20. On May 24, 2021, Illumina sent a second letter to APExBIO, enclosing its first letter and claim chart, and reaffirming its allegations of infringement as applied to the renamed “GenuinePrep DNA Library Prep Kit for Illumina” in a second claim chart. A copy of Illumina’s May 24, 2021 notice letter and claim chart is attached hereto as Exhibit 3 and is incorporated by reference herein.

21. The second notice letter was again sent to APExBIO by e-mail and Federal Express, and the Federal Express package was signed for and accepted at APExBIO’s front desk on May 25, 2021. Illumina’s second notice letter followed up on the demand that APExBIO cease all of its infringing activity and requested a response confirming that by June 4, 2021.

22. Despite APExBIO’s receipt of the serious and detailed allegations set forth in Illumina’s second notice letter, APExBIO did not respond to that letter either.

23. Instead, APExBIO *again* attempted to conceal its infringement by renaming its product. On information and belief, after receipt of Illumina’s second notice letter, APExBIO removed the “GenuinePrep DNA Library Prep Kit for Illumina” products previously sold from its website, renamed the kit the “One-step DNA Library Prep Kit for Illumina,” and started selling the kit under catalog numbers K1255 through K1257 with two sequencing primer indexes separately sold as “Index Kits 1 and 2 for Illumina” under catalog numbers K1058 and K1059 (Prep Kits and Index Kits collectively, “the Accused Products.”).

24. On information and belief, after receipt of Illumina’s second notice letter, APExBIO also issued revised product literature for its “One-step DNA Library Prep Kit for

Illumina.” A claim chart comparing representative claim 1 of the ’122 Patent with APExBIO’s revised product literature for the “One-step DNA Library Prep Kit for Illumina” and corresponding primer indexes is attached hereto as Exhibit 6 and is incorporated by reference herein.

25. As of the date of this Complaint, APExBIO still has not responded to either notice letter, or ceased its infringing activity.

26. Instead, APExBIO has knowingly and intentionally continued to make, use, sell, offer for sale, and instruct APExBIO customers to use the Accused Products to infringe the ’122 Patent.

COUNT I

Induced Infringement of U.S. Patent No. 10,184,122

27. Illumina repeats and re-alleges the foregoing paragraphs 1-26 as if set forth specifically herein.

28. APExBIO has and continues to induce infringement of one or more claims of the ’122 Patent under 35 U.S.C. § 271(b) by actively inducing its customers to use the Accused Products in a manner that directly infringes one or more claims of the ’122 Patent. APExBIO’s product literature and website instructs customers to perform the claimed steps of the ’122 Patent by using the Accused Products.

29. As of at least January 12, 2021, APExBIO had been selling its “Tn5 DNA Library Prep Kit for Illumina” for 1 ng, 5 ng, and 50 ng DNA in a manner that induced infringement of at least claim 1 of the ’122 Patent, as shown in the chart attached hereto as Exhibit 4.

30. As of at least May 24, 2021, APExBIO had been selling its “GenuinePrep DNA Library Prep Kit for Illumina” for 1 ng, 5 ng, and 50 ng DNA in a manner that induced infringement of at least claim 1 of the ’122 Patent, as shown in the chart attached hereto as Exhibit 5.

31. As of at least June 4, 2021, APEXBIO has been selling its “One-step DNA Library Prep Kit for Illumina” for 1 ng, 5 ng, and 50 ng DNA and “Index Kit 1 for Illumina” and “Index Kit 2 for Illumina” in a manner that induces infringement of at least claim 1 of the ’122 Patent, as shown in the chart attached hereto as Exhibit 6.

32. As shown in Exhibits 4 through 6, performing the steps of the protocols as instructed in APEXBIO’s product literature for the Accused Products results in direct infringement by APEXBIO’s customers of at least claim 1 of the ’122 Patent.

33. Performing the steps as instructed by APEXBIO requires use of the method that infringes at least claim 1 of the ’122 Patent, and performing the steps is necessary to achieve the advertised result of direct and rapid DNA library construction for the Illumina high-throughput sequencing platform.

34. APEXBIO is, and has been, on notice of the existence of the ’122 Patent and its infringement of the ’122 Patent since before the lawsuit was filed. APEXBIO had actual notice of the ’122 Patent on or before its receipt of the notice letter dated January 12, 2021, attached hereto as Exhibit 2. APEXBIO continued to infringe despite its awareness of the ’122 Patent, and does so even after receiving the second notice letter dated May 24, 2021, attached hereto as Exhibit 3.

35. Despite having actual knowledge of the ’122 Patent and actual knowledge that it is instructing customers to infringe as described in the notice letters and claim charts attached hereto as Exhibits 2 and 3, APEXBIO continues to encourage and instruct its customers to use its products to infringe the ’122 Patent.

36. APEXBIO’s infringement of the ’122 Patent has injured Illumina in its business and its property rights. Unless enjoined by this Court, APEXBIO will continue to willfully infringe the ’122 Patent and Illumina will continue to suffer irreparable harm and harm for which damages are

inadequate. Accordingly, Illumina is entitled to injunctive relief against such infringement under 35 U.S.C. § 283.

37. As a result of APExBIO's infringement of the '122 Patent, Illumina has been and continues to be irreparably injured with respect to its business and intellectual property rights, and is entitled to recover past damages for such injuries pursuant to 35 U.S.C. § 284.

COUNT II

Contributory Infringement of U.S. Patent No. 10,184,122

38. Illumina repeats and re-alleges the foregoing paragraphs 1-37 as if set forth specifically herein.

39. APExBIO has and continues to contribute to infringement of one or more claims of the '122 Patent under 35 U.S.C. § 271(c) by supplying the Accused Products. The Accused Products constitute a material part of the invention claimed in at least representative claim 1 of the '122 Patent, in particular because the Accused Products are specifically designed and advertised for use to infringe by performing the claimed steps of the '122 Patent using the Accused Products.

40. As of at least January 12, 2021, APExBIO had been selling its "Tn5 DNA Library Prep Kit for Illumina" for 1 ng, 5 ng, and 50 ng DNA in a manner that contributes to infringement of at least claim 1 of the '122 Patent, as shown in the chart attached hereto as Exhibit 4.

41. As of at least May 24, 2021, APExBIO had been selling its "GenuinePrep DNA Library Prep Kit for Illumina" for 1 ng, 5 ng, and 50 ng DNA in a manner that contributes to infringement of at least claim 1 of the '122 Patent, as shown in the chart attached hereto as Exhibit 5.

42. As of at least June 4, 2021, APExBIO has been selling its "One-step DNA Library Prep Kit for Illumina" for 1 ng, 5 ng, and 50 ng DNA and "Index Kit 1 for Illumina" and "Index

Kit 2 for Illumina” in a manner that contributes to infringement of at least claim 1 of the ’122 Patent, as shown in the chart attached hereto as Exhibit 6.

43. As shown in Exhibits 4 through 6, performing the steps of the protocols as instructed in APExBIO’s product literature for the Accused Products results in direct infringement by APExBIO’s customers of at least claim 1 of the ’122 Patent.

44. The Accused Products constitute material parts of the inventions of the ’122 Patent and are not suitable for substantial non-infringing use. The Accused Products are specifically designed for use to practice the method claimed in at least representative claim 1 of the ’122 Patent.

45. APExBIO is, and has been, on notice of the existence of the ’122 Patent and its infringement of the ’122 Patent since before the lawsuit was filed. APExBIO had actual notice of the ’122 Patent on or before its receipt of the notice letter dated January 12, 2021, attached hereto as Exhibit 2. APExBIO continued to infringe despite its awareness of the ’122 Patent, and does so even after receiving the second notice letter dated May 24, 2021, attached hereto as Exhibit 3.

46. Despite having actual knowledge of the ’122 Patent and actual knowledge that the use of its products infringes the ’122 Patent as described in the notice letters and claim charts attached hereto as Exhibits 2 and 3, APExBIO continues to contribute to infringement by supplying the Accused Products to its customers.

47. APExBIO’s infringement of the ’122 Patent has injured Illumina in its business and its property rights. Unless enjoined by this Court, APExBIO will continue to willfully infringe the ’122 Patent and Illumina will continue to suffer irreparable harm and harm for which damages are inadequate. Accordingly, Illumina is entitled to injunctive relief against such infringement under 35 U.S.C. § 283.

48. As a result of APExBIO's infringement of the '122 Patent, Illumina has been and continues to be irreparably injured with respect to its business and intellectual property rights, and is entitled to recover past damages for such injuries pursuant to 35 U.S.C. § 284.

COUNT III

Willful Infringement of U.S. Patent No. 10,184,122

49. Illumina repeats and re-alleges the foregoing paragraphs 1-48 as if set forth specifically herein.

50. As set forth throughout this Complaint, APExBIO's infringement of the '122 Patent has been and is deliberate and willful and constitutes egregious misconduct. APExBIO's misconduct has been and continues to be reckless, willful, wanton, malicious, committed in bad faith, deliberate, consciously wrongful, flagrant, and characteristic of a pirate.

51. On information and belief, APExBIO purchased Illumina's Nextera DNA Library Prep and Index kits in 2019 to intentionally copy Illumina's products.

52. APExBIO has continued to willfully and intentionally infringe since at least the time it received and signed for Illumina's first notice letter on January 13, 2021. APExBIO continues to willfully and intentionally infringe even after the time it received and signed for Illumina's second notice letter on May 25, 2021.

53. On information and belief, following APExBIO's receipt of either Illumina's first and second notice letters, rather than ceasing infringement, APExBIO instead intentionally and knowingly tried to conceal its infringement by rebranding the Accused Products and cataloging them under different numbers without making any substantive changes to them.

54. In particular, on information and belief, after receiving Illumina's first notice letter dated January 12, 2021, APExBIO changed the name of its library preparation product from "Tn5

DNA Library Prep Kit for Illumina” to “*Genuine*Prep DNA Library Prep Kit for Illumina” (emphasis added), knowing full well there was nothing “Genuine” about its product.

55. Then, on information and belief, after receiving Illumina’s second notice letter dated May 24, 2021 and in a further attempt to conceal its infringement, APExBIO changed the name of its library preparation product from “GenuinePrep DNA Library Prep Kit for Illumina” to “One-step Library Prep Kit for Illumina” and separated out the primers to be sold separately as “Index Kit 1 for Illumina” and “Index Kit 2 for Illumina” for customers to buy with the “One-step Library Prep Kit for Illumina.” APExBIO does not avoid infringement of Illumina’s patents by its deliberate renaming and re-structuring of the same product offerings into separate parts. Such acts demonstrate the willfulness of its infringing activities.

56. APExBIO’s willful infringement of the ’122 Patent has injured Illumina in its business and its property rights. Unless enjoined by this Court, APExBIO will continue to willfully infringe the ’122 Patent and Illumina will continue to suffer irreparable harm and harm for which damages are inadequate. Accordingly, Illumina is entitled to injunctive relief against such infringement under 35 U.S.C. § 283.

57. As a result of APExBIO’s willful infringement of the ’122 Patent, Illumina has been and continues to be irreparably injured with respect to its business and intellectual property rights, and is entitled to recover monetary damages for such injuries pursuant to 35 U.S.C. § 284 as well as treble damages and the reimbursement of its fees and costs as set forth in 35 U.S.C. §§ 284 and 285.

DEMAND FOR JURY TRIAL

Illumina hereby demands a jury trial on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Illumina respectfully prays for:

1. Judgment that APExBIO has induced infringement of the '122 Patent in violation of 35 U.S.C. § 271(b);
2. Judgment that APExBIO has contributed to infringement of the '122 Patent in violation of 35 U.S.C. § 271(c);
3. Judgment that APExBIO's infringement has been and continues to be intentional and willful;
4. An injunction against further infringement by APExBIO and each of APExBIO's agents, employees, servants, attorneys, successors and assigns, and all others in privity or acting in concert with any of them, pursuant to at least 35 U.S.C. § 283;
5. An award of damages adequate to compensate Illumina for APExBIO's patent infringement pursuant at least to 35 U.S.C. § 284, including lost profits and/or a reasonable royalty, said damages to be trebled by reason of the intentional and willful nature of APExBIO's infringement;
6. An award of Illumina's costs associated with this action;
7. A declaration that the case is exceptional under 35 U.S.C. § 285 and an award of Illumina's reasonable attorneys' fees;
8. An award of pre- and post-judgment interest on any monetary award; and
9. Such other and further relief as this Court deems equitable, just and proper.

Dated: August 11, 2021

Respectfully submitted,

By: /s/ Aimee P. Fagan
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